

established, and drove the lymph onward in its turn. Systole of the heart now again ensuing, the lymph-stream propelled into the vein swept forward the blood in that vessel as before, whilst the flow of blood from behind was arrested; and so the same series of phenomena was repeated.

It was thus seen that the phenomena attending the propulsion of lymph from the anterior lymphatic hearts of the frog into the veins at their posterior border, with which they communicate by a valvular opening, are essentially similar to those attending the propulsion of the lymph from the caudal heart of the eel into the caudal vein.

The vein at the posterior border of the heart, after receiving the lymph, turned behind the large transverse process of the third vertebra, and passed forwards along the inner to the anterior border of the heart, where it inosculated with the large blackish vein which runs up on the side of the neck.

This large blackish vein was described by Professor Johannes Müller as issuing from the heart; but the author has not found it to do so. It is merely in close connexion, so that it is dragged backwards by communication of the movement of the heart in contracting, and recoils forwards into its previous position when diastole takes place.

III. "Researches on Solar Physics. Heliographical Positions and Areas of Sun-spots observed with the Kew Photoheliograph during the years 1862 and 1863." By WARREN DE LA RUE, Ph.D., F.R.S., F.R.A.S., BALFOUR STEWART, LL.D., F.R.S., F.R.A.S. (Superintendent of the Kew Observatory), and BENJAMIN LOEWY, F.R.A.S. Received March 31, 1868.

(Abstract.)

In this paper the sun-pictures taken by the Kew photoheliograph for the years 1862 and 1863 are discussed; the heliographic latitude and longitude of every spot is given, and the area of each group on each day when it was observed is expressed in millionth parts of the sun's whole hemispherical area. The Kew photoheliograph itself, as well as the instrument invented by Mr. De la Rue for measuring sun-pictures, have been already described by Mr. De la Rue in the Bakerian Lecture for 1862. These descriptions are not therefore repeated in this paper; but, on the other hand, the method by which the heliographic position of spots is deduced from the measurements made is given at considerable length.

The results of succeeding years, and their final discussion with reference to the sun's elements, will be published hereafter.